

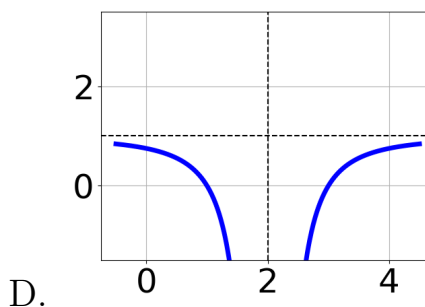
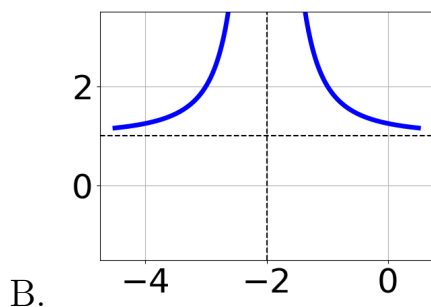
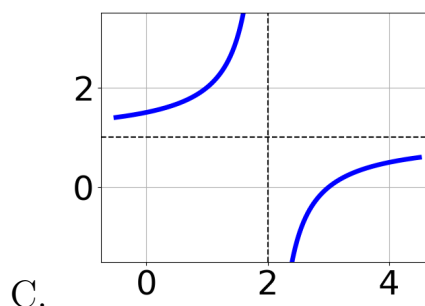
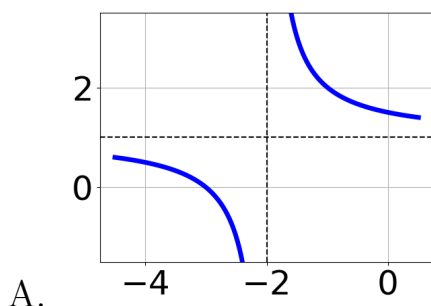
1. Determine the domain of the function below.

$$f(x) = \frac{4}{20x^2 + 3x - 9}$$

- A. All Real numbers.
- B. All Real numbers except $x = a$ and $x = b$, where $a \in [-15, -8]$ and $b \in [14, 18]$
- C. All Real numbers except $x = a$ and $x = b$, where $a \in [-3.75, 0.25]$ and $b \in [-0.4, 1.6]$
- D. All Real numbers except $x = a$, where $a \in [-3.75, 0.25]$
- E. All Real numbers except $x = a$, where $a \in [-15, -8]$
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2. Choose the graph of the equation below.

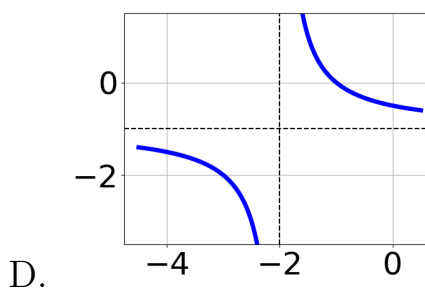
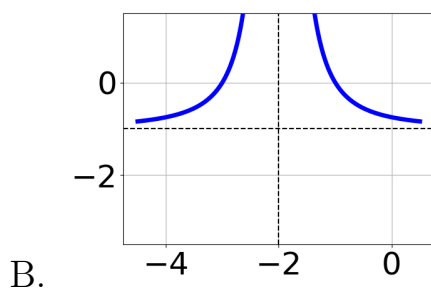
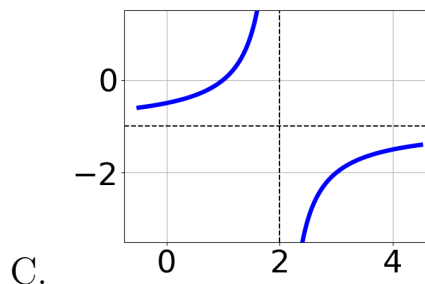
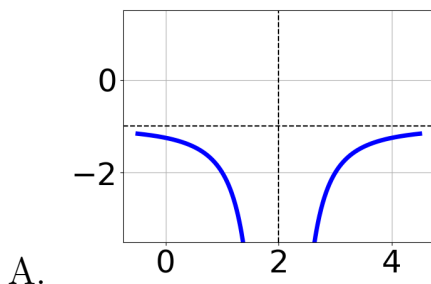
$$f(x) = \frac{1}{(x+2)^2} - 1$$



- E. None of the above.
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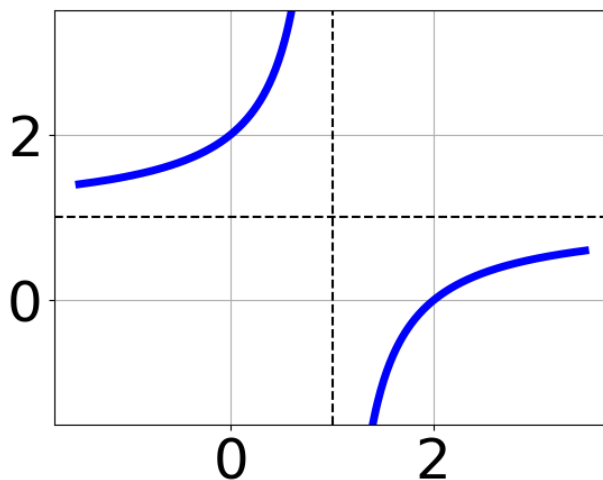
3. Choose the graph of the equation below.

$$f(x) = \frac{-1}{(x-2)^2} - 1$$



E. None of the above.

4. Choose the equation of the function graphed below.

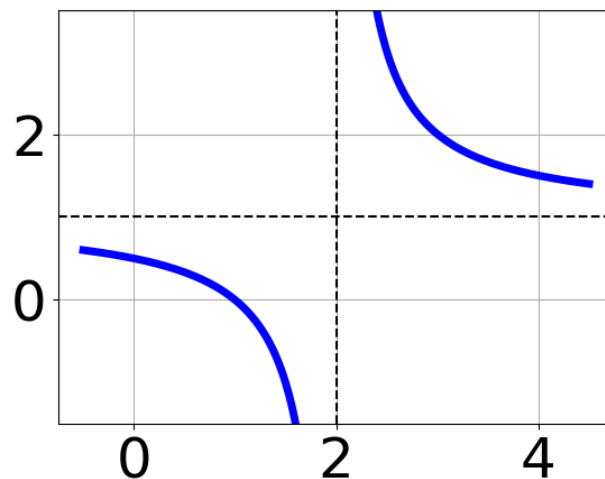


A. $f(x) = \frac{1}{(x-1)^2} + 2$

B. $f(x) = \frac{-1}{(x+1)^2} + 2$

- C. $f(x) = \frac{-1}{x+1} + 2$
- D. $f(x) = \frac{1}{x-1} + 2$
- E. None of the above
-

5. Choose the equation of the function graphed below.



- A. $f(x) = \frac{-1}{(x+2)^2} + 1$
- B. $f(x) = \frac{-1}{x+2} + 1$
- C. $f(x) = \frac{1}{(x-2)^2} + 1$
- D. $f(x) = \frac{1}{x-2} + 1$
- E. None of the above
-

6. Solve the rational equation below. Then, choose the interval(s) that the solution(s) belongs to.

$$\frac{5}{5x+7} + -5 = \frac{3}{10x+14}$$

- A. $x_1 \in [-1.27, -1.2]$ and $x_2 \in [1.54, 2.54]$
 - B. $x_1 \in [-1.37, -1.31]$ and $x_2 \in [-2.26, -0.26]$
 - C. All solutions lead to invalid or complex values in the equation.
 - D. $x \in [-1.26, -0.26]$
 - E. $x \in [1.46, 1.65]$
-

7. Solve the rational equation below. Then, choose the interval(s) that the solution(s) belongs to.

$$\frac{65}{-117x - 39} + 1 = \frac{65}{-117x - 39}$$

- A. $x \in [-0.2, 0.5]$
 - B. All solutions lead to invalid or complex values in the equation.
 - C. $x_1 \in [-0.7, -0.1]$ and $x_2 \in [-0.2, 1.3]$
 - D. $x \in [-2.33, 0.67]$
 - E. $x_1 \in [-0.7, -0.1]$ and $x_2 \in [-1.4, -0.3]$
-

8. Determine the domain of the function below.

$$f(x) = \frac{5}{15x^2 + 21x - 18}$$

- A. All Real numbers except $x = a$ and $x = b$, where $a \in [-19, -14]$ and $b \in [15, 18]$
 - B. All Real numbers except $x = a$, where $a \in [-3, -1]$
 - C. All Real numbers.
 - D. All Real numbers except $x = a$ and $x = b$, where $a \in [-3, -1]$ and $b \in [-1.4, 2.6]$
 - E. All Real numbers except $x = a$, where $a \in [-19, -14]$
-

9. Solve the rational equation below. Then, choose the interval(s) that the solution(s) belongs to.

$$\frac{7x}{2x+7} + \frac{-4x^2}{6x^2+27x+21} = \frac{-6}{3x+3}$$

- A. $x_1 \in [-3.55, -2.83]$ and $x_2 \in [-2.09, -0.1]$
 - B. $x \in [-1.49, -0.72]$
 - C. $x_1 \in [-2.46, -1.32]$ and $x_2 \in [-0.44, 3.39]$
 - D. $x \in [-3.55, -2.83]$
 - E. All solutions lead to invalid or complex values in the equation.
-

10. Solve the rational equation below. Then, choose the interval(s) that the solution(s) belongs to.

$$\frac{4x}{6x-2} + \frac{-2x^2}{36x^2+24x-12} = \frac{7}{6x+6}$$

- A. $x_1 \in [-0.19, 1.3]$ and $x_2 \in [-2, 0]$
 - B. All solutions lead to invalid or complex values in the equation.
 - C. $x \in [-1.35, -0.38]$
 - D. $x_1 \in [-0.47, 0.19]$ and $x_2 \in [0.99, 1.99]$
 - E. $x \in [-0.19, 1.3]$
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